EPA Region 7 TMDL Review

TMDL ID	294	*Water Body ID*	2681
Water Body Name	Jacks Fork River		
Pollutant	Fecal Coliform Bacteria		
Tributary			
State	MO	*HUC*	11010008-050
Basin			
Submittal Date	12/31/2003		
Approved	yes		

Submittal Letter

State submittal letter indicates final TMDL(s) for specific pollutant(s)/ water(s) were adopted by the state, and submitted to EPA for approval under section 303(d) of the Clean Water Act.

Letter from MDNR dated December 30, 2003 was received by EPA on December 31, 2003 thus formally submitting the Jacks Fork River TMDL for approval.

Water Quality Standards Attainment

The water body's loading capacity for the applicable pollutant is identified and the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources is described. TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.

Water quality attainment for Jacks Fork River's whole body contact recreation beneficial use is Missouri's standard for fecal coliform bacteria which states, for periods when a waterbody is not affected by stormwater run-off, the fecal coliform count shall not exceed two hundred colonies per one hundred milliliters during the recreational season (April 1 to October 31) 10 CSR 20-7.031(4)(C). However, the Jacks Fork is a classified Outstanding Natural Resource Water under the Tier III waterbodies WQS (10 CSR20-7.031(2)(C). Tier III waterbodies are afforded no degradation in water quality. In the case of the Jacks Fork, the natural background of fecal coliform bacteria becomes the standard in this phased TMDL.

Numeric Target(s)

Submittal describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, site specific if possible, was developed from a narrative criterion and a description of the process used to derive the target is included in the submittal.

The numeric target is the Jacks Fork's Tier III numeric water quality standard of not exceeding a 30 day geometric mean of 25 colonies per 100 milliliter for whole body contact recreation, expressed as a TMDL load duration curve. No single sample is to exceed 200 colonies per 100 milliliter.

Link Between Numeric Target(s) and Pollutant(s) of concern

An explanation and analytical basis for expressing the TMDL through surrogate measures (e.g., parameters such as percent fines and turbidity for sediment impairments, or chlorophyll-a and phosphorus loadings for excess algae) is provided, if applicable. For each identified pollutant, the submittal describes analytical basis for conclusions, allocations and margin of safety that do not exceed the load capacity.

The TMDL target is based on the Jacks Forks Tier III waterbody numeric water quality standard for fecal coliform bacteria.

Source Analysis

Important assumptions made in developing the TMDL, such as assumed distribution of land use in the watershed, population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources, are described. Point, non point and background sources of pollutants of concern are described, including magnitude and location of the sources. Submittal demonstrates all significant sources

All likely sources, including septic systems, wildlife, manure application, grazing animals, urban development, recreational usage, and trail rides were considered in the TMDL. There are two point dischargers in the watershed, Mountain View WWTP (permit MO-0026310) and Eminence WWTF (permit MO-0055328). Both of these facilities discharge into tributaries of the Jacks Fork. Both of the permits have disinfection requirements and therefore have fecal coliform limits. Cross Country Trail Rides (CCTR) and MDNR have a settlement agreement dated May 15, 2003 in which CCTR agrees to "ensure proper onsite waste handling and reduce the risk of discharge of contaminated stormwater to the Jacks Fork River".

Allocation

Submittal identifies appropriate wasteload allocations for point, and load allocations for nonpoint sources. If no point sources are present the wasteload allocation is zero. If no nonpoint sources are present, the load allocation is zero.

Allocations are based off flow duration curves which were generated by multiplying the 25 colonies per 100 ml standard with flow rates and a conversion factor.

WLA Comment

The two point source discharger's contribution is relatively small at 1.10 x E9 colonies per day. WLA is calculated from the two discharger's monitoring report from the last five

years and the flows are averaged from the maximum actual flow.

LA Comment

The load allocation is based on a continuous flow duration curve calculated over a range of flow conditions. Specific loading capacities were calculated by multiplying the flow rate, the 25 colonies per 100 milliliter standard, and a conversion factor. LA is set at 3.18 x E11 colonies per day.

Margin of Safety

Submittal describes explicit and/or implicit margin of safety for each pollutant. If the MOS is implicit, the conservative assumptions in the analysis for the MOS are described. If the MOS is explicit, the loadings set aside for the MOS are identified and a rationale for selecting the value for the MOS is provided.

The margin of safety is implicit based on conservative interpretation of data and that in-stream bacterial die-off is not occurring.

Seasonal Variation and Critical Conditions

Submittal describes the method for accounting for seasonal variation and critical conditions in the TMDL(s).

Contact recreation period extends from April 1 to October 31 of each year. This TMDL addresses seasonal variation by associating a daily load to every flow.

Public Participation

Submital describes public notice and public comment opportunity, and explains how the public comments were considered in the final TMDL(s).

Three public meetings were held in Eminence, Missouri on April 10, May 29, and July 10, 2003. The TMDL was public noticed from October 24 to November 23, 2003. Copies of the TMDL were sent to stakeholders and were available on the internet. Public comments were received and their comments were taken into account.

Monitoring Plan for TMDL(s) Under Phased Approach

The TMDL identifies the monitoring plan that describes the additional data to be collected to determine if the load reductions required by the TMDL lead to attainment of WQS, and a schedule for considering revisions to the TMDL(s) (where phased approach is used).

Future monitoring is planned and if the data collection finds no compliance with WQS, the TMDL will be re-evaluated. As a result of public meetings, the Jacks Fork Watershed Committee was established. Suggestions to ensure compliance of the TMDL include installation of sanitary facilities for recreational users, carrying capacity studies, trail management practices, public education, continued microbial source tracking efforts, septic system evaluations, and BMP evaluations.

Reasonable assurance

Reasonable assurance only applies when reduction in nonpoint source loading is required to meet the prescribed waste load allocations.

Reasonable assurance is not required because the Mountain View and Eminence facilities have disinfection requirements making their contribution insignificant. Nonetheless, the Jacks Fork Watershed Committee is working on securing grant funds from local, private, state, and federal individuals to put forth plans at reducing the bacterial load into the Jacks Fork. The settlement agreement between CCTR and MDNR provides the legal authority to ensure that the terms of the agreement are met.